SDC 1

REporting of studies Conducted using Observational Routinely-collected health Data (RECORD)

Title and Abstract		RECORD 1.1:	Data warehouse anaesthesia. Version 01 2017	type of data the name of the databases
		RECORD 1.2:	Belgium	geographic region time frame
		RECORD 1.3:		Linkage between databases
Methods	Participants	RECORD 6.1:	Each procedure has a ID number, called DOCUMENT	codes or algorithms used to identify subjects
		RECORD 6.2:	See flowchart	validation studies of the codes or algorithms used to select
		RECORD 6.3	See Fig DataLAB	a flow diagram or other graphical display to demonstrate the data linkage process
	Variables	RECORD 7.1:	IdPatient Id Sejour Document Asa, grasa Age Service Time M LOS IA2 Dc30.	A complete list of codes and algorithms used to classify exposures, outcomes, confounders, and effect modifiers should be provided.

Example for Dc30 with date of death

```
DO IF (DocFirst=1).
RECODE jdc (MISSING=0) (ELSE=1)  INTO dc2 .
END IF.
FREQUENCIES VARIABLES= dc2
  /ORDER=ANALYSIS.
EXECUTE.
DO IF (DocP~=1).
RECODE dc2 (1=0).
END IF.
RECODE dc2 (ELSE=Copy) INTO Dc30.
FORMATS Dc30(F8.0).
VARIABLE LABELS  Dc30 'Dc 30 days'.
VALUE LABELS dc30 0 ' >30 days POMR' 1 '30 days POMR'.
EXECUTE.
```

	Data access and cleaning methods	RECORD 12.1:	no	The investigators had access to the database population used to create the study population.
		RECORD	Example ASA6 transform in missing value	The data cleaning methods used in the study.

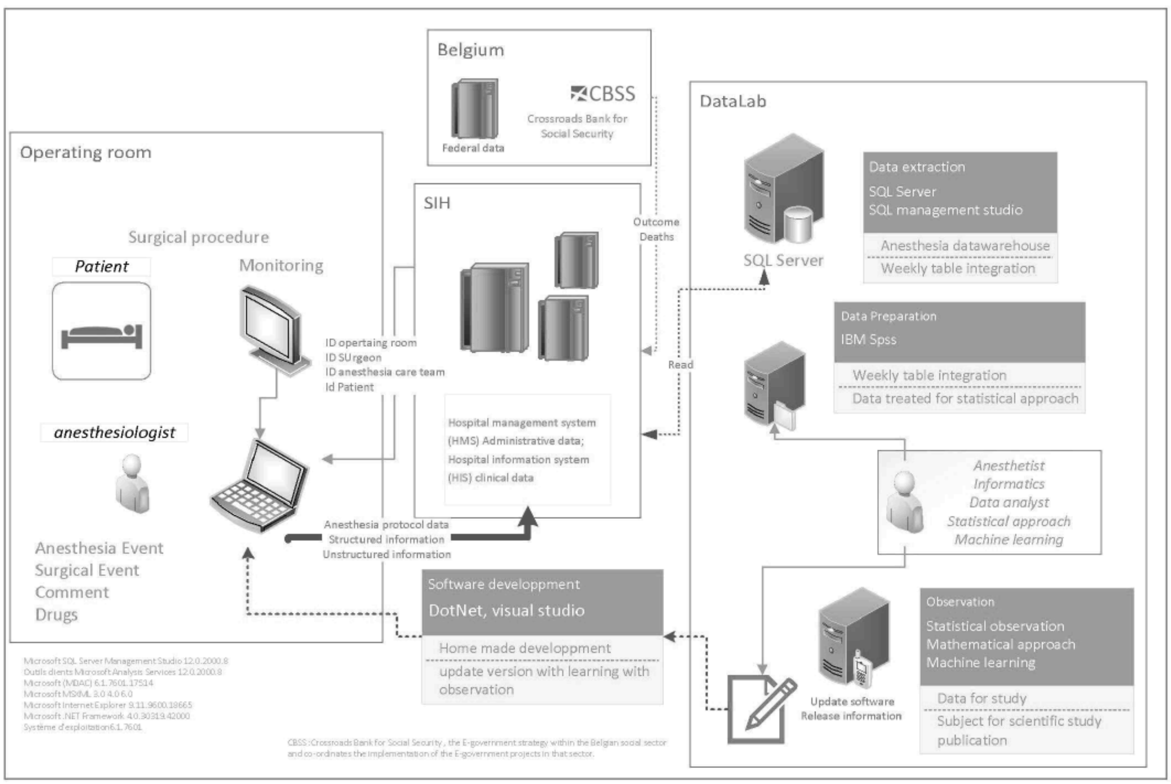
	12.2:	RECODE asa (6=SYSMIS) (1 thru 2=0) (3 thru 5=1) INTO grasa. VARIABLE LABELS grasa 'Cat ASA'. VALUE LABELS grasa 0 'ASA.PS <=2' 1 'ASA.PS >=3'. EXECUTE. FORMATS grasa(F8.0).	
	Linkage RECORD 12.3:	The e-government strategy for health data access	data linkage across two or more databases
Results	Participants RECORD 13.1:	All(LAST) surgical procedure	Describe in detail the selection of the persons included in the study
Discussion	Limitations RECORD 19.1:	Only the data from the study are extracted from the DWA	Discuss the implications of using data that were not created or collected to answer the specific research question(s)
Other Information	RECORD 22.1:	Not necessary	information on how to access any supplemental information

13 items by RECORD related to parts of articles (PLOS Medicine | DOI:10.1371/journal.pmed.1001885 October 6, 2015)

SDC 2

Detailed description of data sources

Information needed for the retrospective observational study was extracted from an anaesthesia data warehouse and assembled from three sources of information. Firstly, perioperative data collected from the anaesthesia information management systems (AIMS) developed in-house AIMS and fully integrated in Electronic health record (EHR). Secondarily, all administrative data from the hospital administration department, and thirdly, all medical data entered in the EHR system that included deaths status in and out postoperative mortality. This information is stored in a central database (SQL Server 2012TM Microsoft and Microsoft SQL Server Management Studio 12.0.2000.8, Redmond [WA] USA,) which is called, in this review, anaesthesia Data warehouse (DWA).



AIMS

As soon as the anaesthesia procedure started, demographic data (identification number, name, birthday, sex) were introduced automatically. Preoperative clinical variables included weight, height, American Society of Anesthesiologists physical status (ASA-PS) and emergency for risk- adjustment. These data must be manually entered by the anesthesiologist before registration data with AIMS can be started. Intraoperative data, values and settings from the monitoring (IntelliVue Mx800/X2/PIICiX/IPC, Philips Healthcare, Andover) and types of anaesthesia machines (Perseus A500TM, Dräger, Lübeck, Germany) are automatically transmitted and stored in real time using the hospital informatics system. Information about perioperative events and medications is introduced by the anesthesiologist and is recorded using AIMS software. The anesthesiologist selects this information from a con- textual drop-down list (structured data) or introduces a free text (unstructured data)

Data from EHR and administrative department

Data from other hospital departments such as administrative data and all other medical information are available through tables that link an anaesthesia document number and a number of hospital stay. Urgent admissions in operating room (OR) (Direct admission from the emergency room to the operating room) and intensive care unit discharge after surgery are also recorded in DWA. The administrative patient Data Collection has records of all procedures, including the International Classification of Diseases, 10th Revision (ICD10) (be- fore 2015 ICD9) and codes related to the admission and Major Diagnostic Category (MDC). Length of stay is introduced after the hospital discharge. Gradually, as the administrative encoding is performed the database is updated.

Perioperative mortality rate (POMR)

POMR is defined by in-hospital mortality and out-hospital mortality. In-hospital mortality is recorded in our DWA when death was declared. We had access giving us the opportunity to examine post-discharge mortality rates by a link included in our DWA with the national dataset (Crossroads Bank for Social Security, CBSS, https://www.ksz-bcss.fgov.be/en) where deaths are recorded. In this way, we recorded intra-hospital death and non-hospital 30 days in our database.

Read data warehouse and build request

The data were matched using stay number and anaesthesia document number. This information comes from the anaesthesia data warehouse (DWA), which is based on data from perioperative information and merges data from the electronic patient record data into a table (SQL Server 2012TM MICROSOFT Redmond [WA], USA). Then the data is processed to produce a usable le statistics based on survey questions (RESULT: 182 fields and 25368 records.)

Cleaning and Summarizing the AIMS Data

The research table is inserted into statistical software for data organization, processing and evaluation (SAS version 9.4 and R version 3.3.3).

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Comparison of matched study groups 'solo anaesthesiologist' and 'anaesthesia care team' for each characteristic used in propensity score matching procedure

Variable	Category	Solo anaesthesiologist N = 2095 Number (%)	Anaesthesia care team N = 2095 Number (%)	P-value
Age (years)	Mean ± SD	50.0 ± 19.3	50.4 ± 18.5	0.50
Gender				
	Female	1225 (58.5)	1197 (57.1)	0.37
	Male	870 (41.5)	898 (42.9)	
ASA-PS				
	I	611 (29.2)	587 (28.0)	0.15
	II	1110 (53.0)	1097 (52.4)	
	III	348 (16.6)	394 (18.8)	
	IV	26 (1.3)	17 (0.8)	
Surgery	Visceral	442 (21.1)	443 (21.1)	0.99
	Gynaecology	419 (20.0)	395 (18.9)	
	Orthopaedics	371 (17.7)	387 (18.5)	
	Neurosurgery	134 (6.4)	130 (6.2)	
	Urology	156 (7.4)	187 (8.9)	
	Cardiothoracic	68 (3.2)	70 (3.3)	
	Maxillofacial	145 (6.9)	131 (6.3)	
	Vascular	130 (6.2)	138 (6.6)	
	ENT	87 (4.2)	81 (3.9)	
	Plastic	52 (2.5)	46 (2.2)	
	Abdominal	41 (2.0)	40 (1.9)	
	Ophthalmology	24 (1.1)	21 (1.0)	
	Other	26 (1.2)	26 (1.2)	
Duration anaesthesia (min)	Mean ± SD	101 ± 76.0	100 ± 75.3	0.73

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Density function of PSM values of 2095 matched patients in solo physician and anaesthesia care team groups (distributions are perfectly superimposed).